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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/752,660 | 12/28/2000 | Yutaka Doi | H0001384 (4970) | 9390 |

7590 11/05/2002

Honeywell International Inc.
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EXAMINER

PATEL, ISHWARBHAI B

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2827

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,660

Applicant(s)

DOI, YUTAKA

Examiner

Ishwar (I. B.) Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 26, 2002, paper No. 9.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5,9,11,12 are rejected under 35 U.S.C. 102(e) as being anticipated by Felten, US Patent No. 6,317,023.

Regarding claim 1, 11 and 12, Felten discloses an electronic component, comprising:

a substrate layer (printed wiring board 103, see figure 1a and 1i, column 4, line 1-40); and

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an insulator layer coupled to the substrate layer (adhesive layer 104, see figure 1a-ai), wherein

the insulator layer comprises an insulating material (insulating material of the insulating layer),

a first compartment filled with capacitor material (If capacitors are being added to the resistor build, before firing of the resistor paste and before lamination to the PWB, at least one layer of dielectric paste is patterned and printed onto the resistor paste which allows the capacitor in the same planed as the resistor, see column 3, line 25-60), and

a second compartment filled with a resistor material (thick film resistors or capacitors known as passive component, 101, are printed onto a conductive under print, column 4, line 1-5).

Felton does not disclose, "etched compartment" explicitly, however, "etched compartment" is just discloses how the opening is made for the component to be embedded and is a process limitation in a structural claim. Such a process limitation defines the claimed invention over the prior art only to the degree that it defines the product itself. A process limitation cannot serve to patentably distinguish the product over the prior art, in the case that the product is the same as, or obvious over prior art. See product – by – Process in MPEP 2113 and 2173.05(p) and In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claim 2, Felton further discloses one additional layer coupled to the insulator layer, see figure 1C and 1i.

Regarding claim 3, Felton further discloses one additional layer is a metal layer (metal foil 102).

Regarding claim 4, Felton further discloses the electronic component is printed circuit board (printed circuit board 103).

Regarding claim 5, Felton further discloses the substrate layer comprises at least one layer (printed circuit board 103).

Regarding claim 9, Felton further discloses the insulator layer is coupled to the substrate layer (layer 104, see figure 1C, 1D and 1i).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6-8,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Felten, US Patent No. 6,317,023 as applied to claim 1 above, and further in view of Van De Walle et al, US Patent No. 5,731,747, hereafter referred to Van De Walle and Ellis et al., US Patent 6,233,817, hereafter Ellis.

Regarding claim 6, the applicant is claiming the substrate layer comprises a silicon wafer. Though, Felton does not disclose the substrate as a silicon wafer, the use of silicon wafer is known in the art for the manufacturing of the semiconductor devices and the type of substrate to be used will depend upon the type devices to be manufactured. Further Van De Walle discloses use of a wafer having passive elements for an electronic component. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the assembly of Felton with a silicon wafer as taught by Van De Walle, in order to have the semiconductor devices with the desired function.

Regarding claim 7, the modified assembly of Felton further discloses a layer of conductive as applied against claim 3.

Regarding claim 8, the conductive material comprise copper or nickel (the metallic foils are those available in the industry. The preferred foils are copper, silver, gold, aluminum, nickel or iron foil, column 4, line 30-40).

Regarding claim 10, the applicant is claiming the insulator layer comprises at least one of a polycarbonate, a fused silica compound and an alumina compound. Though Felten does not disclose the insulator layer comprises at least one of a polycarbonate, a fused silica compound and an alumina compound, the use of

polycarbonate, a fused silica compound and an alumina compound as an insulator is known and will depend upon the type of device and the operating temperature and the degree of insulation required. Ellis discloses one of such circuit assembly with Alumina as insulator. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the assembly of Felton with the insulator layer comprising an alumina compound as taught by Ellis in order to get an assembly to with desired operating temperature and required degree of insulation.

Response to Arguments

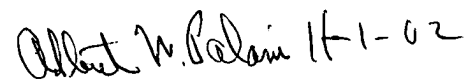
5. Applicant's arguments, about claim 1, filed on September 26, 2002 have been fully considered but they are not persuasive. Though the prior art of Felten does not disclose the etch compartment as claimed by the applicant, this is a structural claim and the patentability of a product / structure does not depend on its method of production. If the product is same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Further, the final structure of Felten read on the claim as no specific structural differences are recited in the claim. The term "etched compartment" does not define any specific structural characteristic to one of ordinary skill in the art. It just discloses how the opening was created to have embedded component therein. The applicant is required to clearly set forth what specific differences exist between the structure of the claimed invention and the prior art device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (6:30 - 4) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (703) 305 9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3431 for regular communications and (703) 305 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

ibp
October 28, 2002


ALBERT W. PALADINI
PRIMARY EXAMINER